Beryllium legacy issues at AWE Aldermaston - Plant and Equipment

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Be LEGACY - ISSUES

- Two strands to the legacy issues;
  - Material – solid, powder and swarf.
  - Plant, equipment and buildings.

COMPONENT BUILDINGS

- Three buildings comprise the Be Facility;
  - A4 (1952) – Original Be Building. Contained powder handling, manufacturing, inspection and R&D capabilities.
  - A48 (1958) – Mechanical test house.
  - A82 (1960) – Additional powder handling and manufacturing capabilities.

All these buildings contain equipment which require disposal – particularly A4.

ASSUMPTIONS

- No plant or equipment is cleared for “free release” to the public.
- Disposal of all items will be progressed unless it can be reused within a Be area.
- “Disposal” of any Be contaminated item – drum or package - is to a licensed landfill site.

OUTLINE DISPOSAL METHODOLOGY

- Consider RPE zone requirements
- Remove obvious waste – paper, gloves.
- Remove hand tools, “sharps” and chemicals.
- Collect Be swarf (for recycling - possibly).
- “Coarse clean” eg soak up machine tool oil.
- Disconnect from services.
- Backfill with soft waste – coveralls etc.
- Double wrap in PVC.
- Dispose.

PROCEDURES

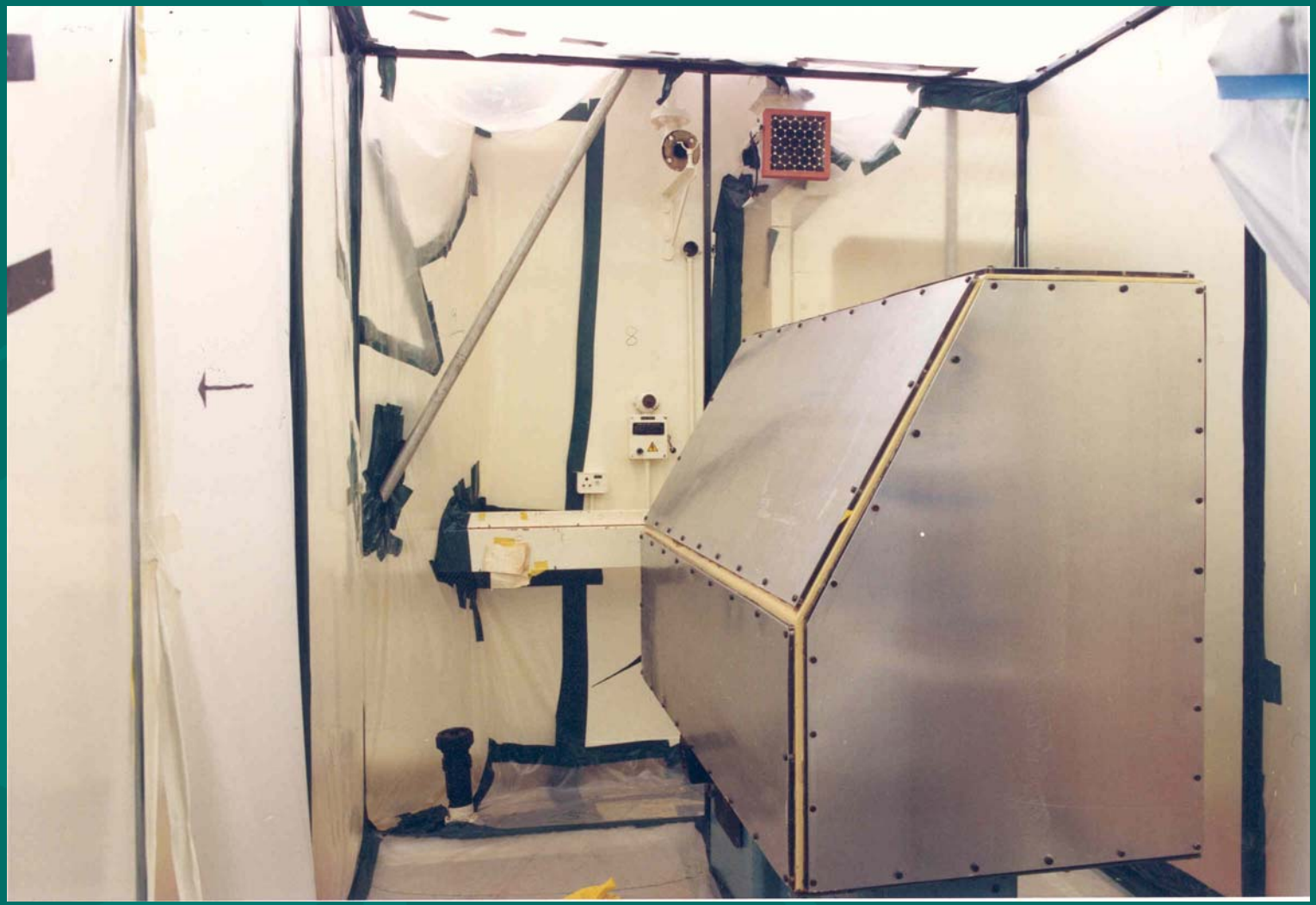
- There is no “one size fits all” solution; each case is considered individually.
- Detailed SSoW produced with supporting assessments, and reviewed by appropriate specialists – maintainers etc.
- Generally these tasks involve RPE.
- Process equipment eg lathes generally requires a tent.
- Process plant eg motors generally doesn’t.

TENTS

- Built from Dexion/Speediframe.
- Covered with PVC, taped seams.
- Connected to building HVAC to provide depression for particulate containment. If this doesn't work, use a portable air-mover (HEPA filtered exhaust).
- Double cell entry/exit airlock chamber built onto tent.
- Clear vision panels provided.
- Certified by HVAC specialists to confirm appropriate construction and airflows through airlock.

EXAMPLE

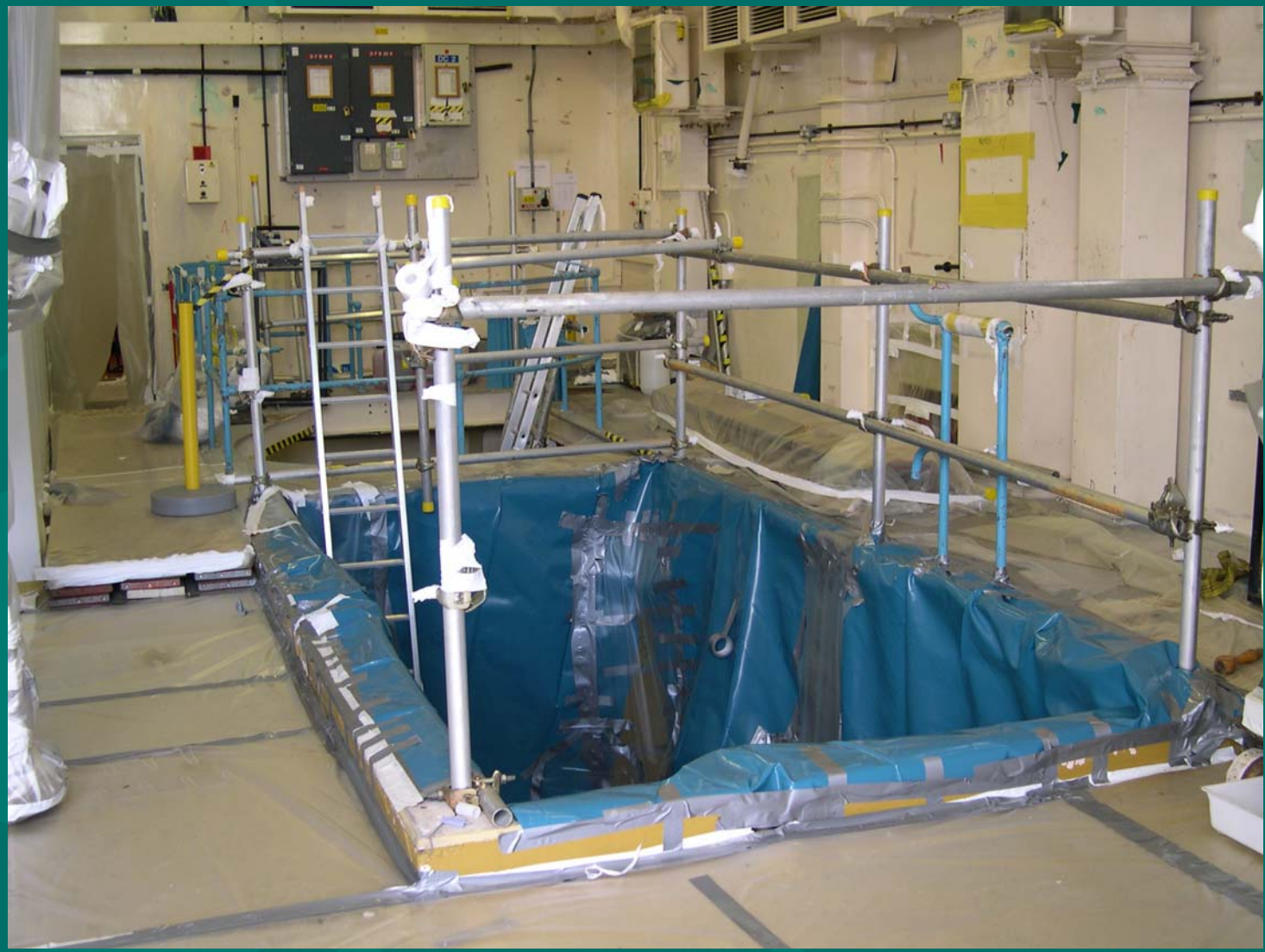
PACKAGE (1)



PACKAGE 2

PACKAGE (3)

WORK SITE



SUCCESS !!!

BUILDINGS

- Facility team progress POCO.
- Handover to decommissioning team.
- Existing ventilation and electrical systems replaced.
- Plant & equipment progressed as above.
- Spoil treated as Be contaminated

CONCLUSIONS

- Each “disposal” is considered on its merits – no “one size fits all” approach.
- By not allowing “free release”, the potential for exposing the public to Be is eliminated.
- This approach has been successfully followed within AWE’s Be Facilities for many years.